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WHERE LIES THE VALUE IN
NUTRITION EVALUATION
(CONCEPTUAL AND CONTEXTUAL
DIFFICULTIES)

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WHERE LIES THE VALUE IN
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(CONCEPTUAL AND CONTEXTUAL ISSUES)

Cecilia A. Florencio*

Evaluation Defined

In treating a subject like "evaluation" it is difficult to pinpoint where to begin and end, and what to include in between. This paper will not attempt to take a panoramic view of the subject mainly because such an approach is beyond my competence. What I hope I can do is more than just call attention to some aspects of evaluation, which I am defining as "a deliberate and systematic process leading to a conclusion about the value or values of an intentional effort." The dictionary says a thing is of value if it is esteemed or highly thought of.

Food "Leakage" Is Undesirable?

To many people food and nutrition are synonymous. Where food is adequate there ought not to be malnutrition and where there is a nutritional problem the solution must be more food. This unidirectional "if this-then that" reasoning explains for the most part the pervasive presence of food aid or supplementary feeding in nutrition programs.

In its Annual Report for 1982, the National Nutrition Council (NNC) indicated that food assistance was given to about five million school children, one million infants and preschoolers, and 60,000 pregnant and nursing women (NNC, 1982). Both local and foreign commodities are used in feeding. In many programs the supplements are designed to provide 300-500 kcal/day, which would correspond to about 20 to 40% of the recommended energy intake of a Filipino child one to six years of age.

The most immediate objective of feeding programs is to fill up, partly or fully, the deficit in energy and other nutrients. Based on the study made by Beaton and Ghassemi (1982) of about three dozen feeding programs in 16 developing countries including the Philippines, one would have to question the effectiveness of these programs in bringing about a satisfactory net increase in energy intake among recipients. In many cases the food supplement was designed to provide 40 to 70% of the estimated energy gap but they found that for the target population as a

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whole, only 10 to 25% of the gap was closed regardless of the type of program.

In supervised feeding, the beneficiary consumes the food in a designated feeding center. In the take-home food scheme the food is brought home by the recipient. The net change in energy intake of the child is similar in both programs. About half of the 300 kcal additional energy provided by supplementary feeding appears as increased intake by the child. What happens to the other half? In take-home food distribution, food is shared with the family or used for non-food purposes while in supervised feeding the beneficiary consumes less of family food (Figure 1). The study and our own experiences in feeding programs teach us only too well not to assume that what is given or received, or even what is consumed under strict supervision, represents a net increase in intake. This makes food intake measurement essential in evaluating feeding programs in order to determine the contribution of the supplement to the child's usual consumption and nutrient requirement.

Is the "leakage" of food which results in an increase in family food supply or income/buying power of no value or of negative value? Or is it a plus factor since it is a source of benefit to the family, who after all is identified as the ultimate target group, with the malnourished child serving as a point of entry? (Figure 2).

Increased Food Intake = Growth?

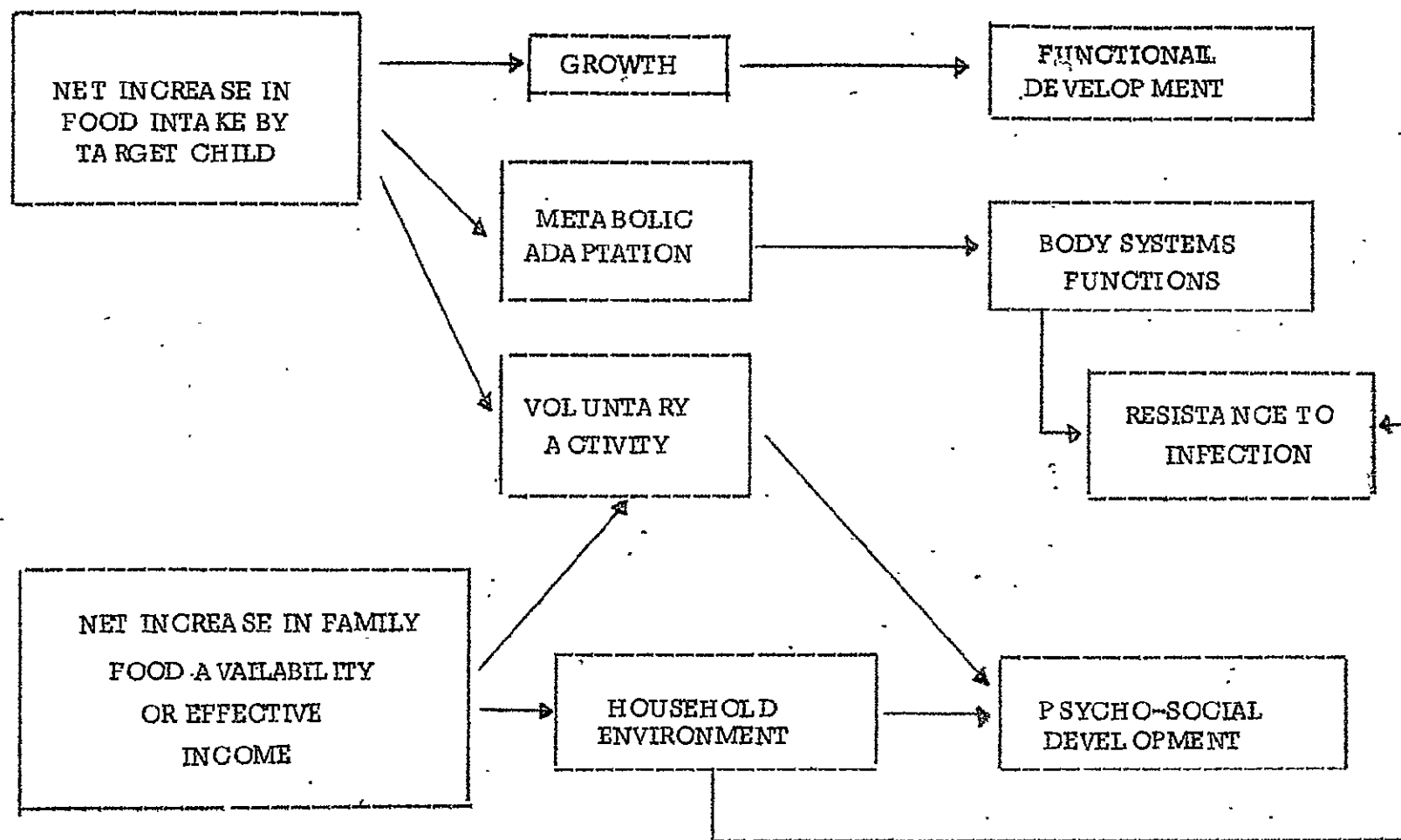
One feature of infancy and early childhood that distinguishes it from adulthood is the active process of growth, which is said to be genetically programmed but environmentally influenced. A state of positive nutrient balance characterizes the growing child.

Feeding programs use growth, expressed as weight gain, to measure outcome. In its Food Assistance Guidelines, the National Nutrition Council indicated this objective "to elevate to mild underweight status at least 25% of the identified severely and moderately underweight for age among 0 to 6 years old, giving priority to 0 to 3 years old" (NNC, 1982).

The multi-country study of Beaton and Ghassemi (1982) serves to challenge a rather firmly held tenet that growth is the best parameter of nutritional status for use in evaluating nutrition intervention for young children. Observed growth accounted for only about one third of the net increase in energy intake of about 150 kcal/day in children receiving supplementary food (Table 1).

The two researchers found the highest weight gain reported in community-based studies they reviewed in the order of one kg per year or about 3 g/day. The theoretical energy cost of weight

Figure 2. Some potential pathways of benefits in food distribution systems.



(Source: Beaton, 1982).

Table 1. Growth as the benefit in young child feeding programs.

Observed situation	
Net increase in energy intake	30-230 kcal/day (assume 150 kcal)
Net change in weight gain	< 1 kg/yr (assume 1 kg)
Theoretical calculation	
Energy cost of weight gain with 5 kcal/g	15 kcal/day
Increase in maintenance energy costs after 500 g gain	25 kcal/day
Total energy utilization associated with weight gain	40 kcal/day
The missing energy, the missing benefit	
Net increase in energy intake	150 kcal/day
Energy associated with weight gain	40 kcal/day
Missing energy, missing benefit	110 kcal/day

Source: Beaton and Ghassemi, 1982.

gain with 5 kcal/g of body weight is 15 kcal/day. To be added to this figure is the energy cost of maintaining the body as it increases in size. Based on certain assumptions, the additional cost would increase from 15 kcal/day (the growth requirement) at the beginning of the year to 70 kcal/day (continuing growth requirement plus additional maintenance requirement) at the end of the year or an average of about 40-45 kcal/day at the midpoint. This still leaves 110 kcal/day unaccounted for.

Several factors could help explain the apparent disparity between the net increase in energy intake and the observed growth response. Two of these are physiological inefficiencies and constant errors in methodology. However, a more logical explanation, according to Beaton (1982) is that the "missing" energy is being utilized for functions not expressed as growth and therefore left unmeasured. On the basis of our present knowledge about energy balance the "missing" fraction could have been used by the malnourished child for "deadadaptation", such as restoring basal metabolic rates toward normal body composition changes, and/or increased physical activity, probably expressed as play.

In order to reduce the impact of nutrient scarcity malnourished children undergo metabolic and behavioral adaptations, with the overall strategy of conserving whatever tissue is left by reducing both anabolic and catabolic processes (Solomons, 1985). In addition, there is a decrease in physical activity, further conserving energy. Recovery from a malnourished state through various modalities of treatment including realimentation involves reversing the adaptive mechanisms and gearing metabolic functions to a condition of positive nutritional balance, since the body has already adjusted to nutrient scarcity. Such readaptation or disadaptation involves energy-requiring processes.

Our own study at U.P. Diliman (Florescio, 1985) demonstrates that once malnourished children have been treated of infection and diarrhea they begin to manifest rapid growth in response to increased food intake. The compensatory recovery of weight, at times approximately 10 to 15 times the weight gain that a well-nourished child of the same height and age would attain, is known as catch-up growth. However, when the deficit has been restored somewhat, the velocity of weight gain tapers to the rate appropriate for a child of the same height, with an associated decrease in appetite and food intake.

What is significant is that even when the children's body weight is less than the normal or first degree level, many of them manifest vastly improved behavior (Florescio, 1985). Although still underweight for their age the children have become interested in their surroundings, at times foregoing food in order to play or explore things around them. They are able to take care of themselves, as shown by their decreased dependence on their mothers during feeding. Breaking away from their apathy they begin to interact with other children and also with adults.

While their growth rate has diminished they are better children in so many ways. This certainly is not an undesirable trade off; perhaps, even better than the coping mechanism observed in the Ugandan child population (Rutishauser and Whitehead, 1972). In this group of children physical growth rates had been maintained at reasonable levels in the face of chronic energy deficit. This adaptation was reported to have been achieved partly by reducing voluntary activity as in playing. But what is a child's world without play?

There are many potential benefits of nutrition programs. Physical growth is only one outcome and as shown in Table 2, it may account for only 13%, while 87% is left unrecorded. It is not unreasonable to theorize that the "non-growth" effects, intended or not, may have greater meaning in the overall development of the individual child and his family than the much sought after gain in weight. Moreover, it is possible that our preoccupation with physical growth has resulted in our underestimation of the real or total impact of efforts in nutrition.

Our Little Ones, How Fare They?

Nutritional status or state has been defined as "the condition of the body resulting from the intake, absorption and utilization of food and from factors of pathological significance" (FAO and WHO, 1974). Such a condition may be manifested by anthropometric and clinical signs, detected by biochemical and physiological tests, suggested by the use of dietary measures, or inferred by proxy indicators such as income. Undernutrition is not a single state, it covers many different kinds or types of conditions arising from a relative or absolute deficiency in one or more nutrients. There are as many nutrient deficiency states as there are nutrients, in fact even more, inasmuch as there are combinations of nutrient deficiencies. But even when dealing with a single nutrient deficiency there are many ways of identifying it and the measurements are usually not comparable in attributes such as specificity, reliability and precision with regard to estimation. Consequently, the choice of one type of measure over another may lead to very different conclusions about the nature and extent of the problem.

Nutrient consumption and nutritional status, expressed in terms of weight for age of preschoolers and schoolers, are the nutrition indicators used in the updated Philippine Development Plan, 1984-1987 (NEDA, 1984) and in the Five Year Development Plan for 1978-1982 (NEDA, 1977) (See Table 3). Weight for age is considered an indicator of energy-protein malnutrition which is said to be the most prevalent nutrient deficiency disease in the country.¹

Weight for age for any child is actual weight at the time of the measurement divided by the "standard"² weight, times 100.

Table 2. Net distribution of food energy in young child feeding programs.

Partitioning of food	kcal/day	% of total
Food distributed for child	300	100
Change in intake by child		
Represented by growth	40	13
Unmeasured effects	110	37
Change in intake by family		
Unmeasured effects	150	50
Total unmeasured effects (Representative data)	260	87

Source: Beaton, 1982 .

Table 3. Health and nutrition indicators, 1983, 1984 & 1987.

Indicators	Actual	Targets	
	1983	1984	1987
Average life expectancy (in years)	62.5	62.8	63.7
Crude death rate (deaths per 1000 population)	8.2	8.1	7.6
Infant mortality rate (deaths per 1000 live births)	59.3	58.0	54.2
Nutritional status			
Prevalence of children with weights greater than 75 percent of Filipino standard weights for their age (percent of total weighed)			
Preschoolers	82.4	84.6	87.0
Schoolchildren	77.1	77.5	80.5
Per capita nutrient consumption			
Energy (K cal)	1,829	1,850	1,916
Protein (grams)	51.3	51.9	53.9
Medical care coverage (in million persons)	22.8	24.0	28.1

Source: NEDA, Updated Philippine Development Plan, 1984-1987, Table 9.1).

Standard weight is the 50th percentile value of normal children the same age as the index child.³ The child's weight for age in relation to a standard is graded, usually on the basis of the widely used Gomez classification.⁴

For nutrition planning purposes it is important to differentiate between acute and chronic cases. Malnutrition of acute onset is thought to pose a severe threat to life and therefore should be given priority. A chronically malnourished child is thought to adapt to the condition (unless it is severe) and for whom intervention is less urgent. Since weight for age is a mixed indicator, two other anthropometric measurements are used. Loss of fat and muscle reserves is indicated by weight-for-length (or weight-for-height) while deceleration or cessation of linear growth is indicated by height-for-age. These two growth patterns are known as wasting (a sign of acute undernourishment, a consequence of severe short-term food inadequacy) and stunting (a sign of chronic undernourishment, a consequence of long periods of inadequate food intake).

In the 1982 "nationwide" nutrition survey, all three anthropometric measures were used (FNRI, 1984). As expected, there is a different reading of the nutritional situation among our young children depending on which method is used (Table 4). The prevalence of undernutrition is 20.6 percent in terms of height-for-age; 17.2 percent, using weight-for-age; and 9.5 percent, using weight-for-height. The last seems to be the chosen indicator of the National Nutrition Council (NNC, 1985) when it reported that "9.5% of children under seven years were malnourished." This figure is significantly lower than the prevalence rate of 13.8% of malnourished children in 1978 when the first nationwide nutrition survey was conducted⁵.

The group composed of one-year old children appeared the most disadvantaged among the preschoolers. It had the highest prevalence of underweight and stunting, and the second highest prevalence of wasting. During the first six months of life most infants grow well, provided there is sufficient milk. But the transitional period from breast milk to adult food is a dangerous time for infants: there is a higher risk of infection and food intake may be inadequate because families may not be aware of the special needs of the infant.

On the basis of weight and height for age, undernutrition was more common among preschoolers in the rural areas. However, in terms of weight-for-height the prevalence of wasting or acute cases was higher in the urban areas. The nutritional situation among schoolers appears to be worse than that seen among the younger children. There was more stunting (24.6% vs. 20.6%) and more school children were severely underweight for their age (5.8% vs. 1.6%).

Many of our children are wasted, many more are stunted. On this basis, chronic undernutrition is an appropriate description of the nutritional situation of our Filipino children.

Table 4. Prevalence of undernutrition among 0 to 6 year old children.

Age (years)	Percent undernourished		
	Wt. for ht. ($<85\%$ of std) n = 3400	Wt. for age ($<75\%$ of std) n = 3400	Ht. for age ($<90\%$ of std) n = 3695
Below 1	16.9	11.3	20.0
1	16.2	30.3	23.7
2	11.1	21.1	21.1
3	7.0	16.2	20.2
4	7.4	12.9	18.1
5	4.4	13.2	21.8
6	4.4	14.4	19.3
Total	9.5	17.2	20.6

Source: FNRI Second Nationwide Nutrition Survey, Philippines, 1982.
Tables B.1.6, B.7.1, and B.7.2.

Is Big Better? Is Small Not Beautiful?

The grades or levels of nutritional status range from severe undernutrition to severe overnutrition.

severe	)	
moderate	)	Undernutrition
mild	)	
	)	Optimal nutrition
mild	)	
moderate	)	Overnutrition
severe	)	

While there is little doubt regarding the adverse effects of the severe states, there is insufficient knowledge of the consequences of the less severe states and a more serious gap in our understanding of what level of nutritional intake is optimal or needed by a person in order that he may do his best.

Research on nutrition-performance relationships was identified as a high priority area in the World Food and Nutrition Study of 1977 (National Research Council, 1977). The research group emphasized the need for the individual and for society to determine the consequences of low levels of nutrition on work performance, frequency and severity of infection, physical and mental growth and development, school and job performance, pregnancy and lactation, and fertility and family planning. It is essential to know the relative seriousness of different states of nutrition in order to make better decisions on who should receive priority and how resources may be allocated.

Robust research is being conducted world-wide on what has been called the functional meaning or significance of various nutritional conditions. As would be expected in a new area of research, there is much conceptual uncertainty and methodological difficulty in studying nutrition and performance linkages.

A few classic studies will be cited here on the relationship between nutritional status, as indicated by anthropometric measurements, and functional consequences in the areas of longevity, cognitive development and reproduction.

Nutritional Status and Mortality

Chen and his co-workers (1972) conducted a prospective study to compare various anthropometric classification systems of nutritional status in prognosticating the subsequent risk of mortality over a 24-month period. The subjects were 2019 children (13-23 months old) residing in rural Bangladesh.

Results indicated that severely malnourished children, according to all the anthropometric indices used, had significantly higher mortality risk but normal, mild and moderately malnourished children experienced the same risk. All indices were found to discriminate mortality risk, but weight-for-age was strongest and weight-for-height was weakest.

Risk was not graduated. Instead, a threshold level was noted below which mortality risk climbed sharply. Below specific demarcation levels, the mortality risk increased dramatically; above the threshold level, the risk remained relatively constant over a wide range of nutritional states. The demarcation appeared to correspond to the customary cut-off points between moderately and severely malnourished states.

The link between growth retardation and mortality may be traced to poor immunological defense mechanisms and therefore there is greater susceptibility to infection among growth retarded children. In Chen's study, the death rate due to accidents was similar between the better and poorer nourished groups but for all other causes (diarrhea, measles, other infections), the malnourished had significantly higher death rates.

Nutritional Status and Cognitive Development

Learning is a multiple input process and differences among children other than nutritional complicate the task of sorting out the effects of malnutrition *per se* and of the non-nutritional variables which characterize the environment of the malnourished child. Birch (1972) summed it aptly when he said that "malnutrition never occurs alone; it occurs in conjunction with low income, poor housing, family disorganization, a climate of apathy, ignorance and despair." Despite the difficulty, there is much research activity in this area.

Pollitt (1984) wrote for UNESCO a "substantive but selective review of the literature on the effects of nutrition and malnutrition on educational achievement." Out of 13 studies conducted in about a dozen countries to measure the effects of nutritional status in infancy and the pre-school period on school achievement and intellectual function, 10 reported that in comparison to well-nourished control children, those with a history of malnutrition had significantly lower intelligence test scores and school achievement scores. However, the magnitude of deficits observed among the malnourished children was not uniform across studies.

Two studies on current nutritional status and effects on school achievement were also reviewed. One was done in the Philippines (Popkin and Lim, 1976). In this study of 240 children (12-14 years old) small body size was related significantly to poor scores in Mathematics, but not in the other

subjects. The association remained after the effects of the socioeconomic status of the children were controlled. Currently, the Ministry of Education, Culture and Sports is conducting a study of nutritional status and school performance of more than 2,000 pupils in Luzon, Visayas and Mindanao.

By way of a conclusion, Pollitt (1984) stated that because of methodological limitations, data from the studies reviewed do not provide a basis for inferring that malnutrition is a causal risk factor for the cognitive development of children. However, "there is an impressive consistency in the nature of the research findings" suggesting that the nutritional status of children is a variable that determines in part learning performance and that malnutrition is a risk factor in the formal educational process.

Nutritional Status and Reproduction

Maternal nutrition as an aspect of reproduction is a major concern. The onset and maintenance of menstrual cycles are associated with the attainment of a minimum weight for height, representing a critical fat store. Moreover, maternal nutrition status and diet are among the most important influences on fetal growth and development.

Recent studies indicate that a woman's nutritional status before she becomes expectant is as important as how she is nourished when she is carrying the unborn child. Edwards (1979) conducted a study among women matched for age, race, parity and socioeconomic status. Both the incidence of low birth weight and prematurity were significantly higher among the underweight mothers. Among women with low pre-pregnancy weight the prevalence of low birth weight and prematurity was 15.3 and 23.0%, respectively. The corresponding prevalence rates among normal weight controls were 7.6 and 14.0%. The importance of birth weight can be better appreciated when it is realized that compared to those with normal birth weight, small-for-date babies tend to have higher neonatal mortality rates, subsequent lower growth rates and developmental scores, and greater incidence of infections.

In a study of 696 women, Luke et al. (1984) sought to clarify the relationship between maternal height as an indicator of chronic nutritional status or long-duration pre-pregnancy nutrition background and weight at birth of the infants. Table 5 shows the largest and most significant differences in birth weight to be between the short and tall gravidas in all but the highest delivery weight percent group. The results also showed higher birth weight and length to parallel pregravid weight and gestational weight gains. However, beyond a certain threshold level, additional weight gains exert a negative influence on intrauterine growth.

Table 5. Mean birth weight difference by maternal delivery weight percent and maternal stature.

Delivery weight percent group	Short and average		Average and tall		Short and tall	
	gm	p value	gm	p value	gm	p value
≤114.4% (n=174)	229	<.001	60	ns	289	<.025
114.5-124.4% (n=110)	214	<.015	123	ns	337	<.001
124.5-149.4% (n=254)	42	ns	203	<.0075	245	<.003
≥149.5% (n=158)	-11	ns	111	ns	100	ns

Source: Luke, B. et al., 1984

Short stature may be mainly genetic in origin or caused by environmental deprivation. Habicht et al. (1974) examined the relevance of ethnic differences on growth potential. They found the differences in growth of children associated with social class to be many times more than those which can be attributed to ethnic factors alone. Among well-to-do and presumably well-nourished preschoolers of different ethnic background the average deviation was about 3% in height and 6% in weight. In contrast the differences among economically well-off children and those who lived in poor communities but with similar ethnic origin were 12% in height and 30% in weight.

At present a debate is raging among nutritionists and even among non-nutritionists (such as economists, political scientists, statisticians) on the real meaning to the individual and society of chronic and less than severe states of undernutrition. While our present understanding of the adverse effects of severe malnutrition on functional performance borders certainty, our knowledge about the consequences of mild or moderate undernutrition (which affects significantly more people) teeters between ignorance and likelihood.

What is the most appropriate course of action in the face of such uncertainty? Do we limit our estimate of the prevalence of undernutrition to include only certain or severe cases or do we broaden it so as to include also those with mild and moderate conditions? The answer has both economic and ethical implications.

It is not good judgment to conclude that something that has not been proven has been disproven. But is it any better to have "firm recommendation, infirm basis"?

Reflection and Action

In the 70's, Austin (1978) described the field of nutrition evaluation as a desert. To the credit of the nutrition community and the significant contributions of those in nutrition-related disciplines, now the field is anything but barren. In fact, one might even say that the field has become somewhat unwieldy.

The impression is that in this country many nutrition researches have been conducted, and many more are the experiences in nutrition, largely undocumented, but no less useful. We need to reflect on what we have thus far, and to clarify the borders of our knowledge between ignorance, likelihood and certainty. As expressed in an earlier paper on the first decade of the Philippine Food and Nutrition Program (Florencio, 1983) there is a need for a critical and thorough synthesis of the information we have accumulated through the years. Such an auditing is a prerequisite for responsible planning of further research. There is a need to rein in our impulse of collecting new data whenever a question is raised.

o The complexity of measuring realistically the effects of a specific variable (such as nutrition) in a complex ecological setting rather than sloppy investigative work could explain for the most part the absence of conclusive answers to many of our questions. But we must continue to search for the answers because "evaluation is important to good planning which is critical to effective implementation which is a prerequisite to bettering the nutritional well-being of people" (Austin, 1978).

We need to pursue more sustained research in the areas of measurement of nutritional status and evaluation of the functional significance of different levels of nutritional well-being. This step becomes all the more important in view of the NNC's stated policy that "nutritional status shall be used as a basis for program objectives and targets and as a criterion in the appraisal of development plans and programs of any agency" (NNC, 1985).

o There is a need to evaluate our policies and programs but there is an equal, if not greater need to ascertain their scientific basis. Are planned inputs compatible with stated outcomes? What effects could reasonably be expected if the program were implemented totally or partially as planned? What indicators will capture the benefits of a program? In cases where these and other underlying considerations upon which project designs are based are not substantiated it makes sense to ask "What is the point of evaluating?" Often we ask for more information from the field. But is it really more and more of this kind of information that we need? Might we not have more than just marginal benefit from efforts directed toward obtaining sound conceptual framework.

Finding more conclusive answers to the questions raised is not to be regarded as armchair academic exercise which contributes only to intellectual elegance. Rather it is an action which reflects ethical, economic and political considerations and carries significant policy implications. In conducting such studies it would be well to consider the view of Philip Chandler, former President of U.S. National Academy of Sciences: "

"the necessity of scientific rigor is even greater when scientific evidence is being offered as the basis for formulation of public policy than when it is simply expected to find its way into the marketplace of accepted scientific understanding."6

A written policy of the NNC (1985) states that "sound and dynamic research shall be undertaken to support the Food and Nutrition Program with accurate and timely data". It goes on to say that "a food and nutrition data and information clearinghouse system shall be established to insure accuracy and uniformity". Accuracy, timeliness and uniformity are without question good criteria. Adding relevance (defined here as implying close,

logical relationship with, and importance to, the matter under consideration) may make the list even better.

o The paucity of data and inconclusiveness of findings in some aspects of nutrition should not, and have not, prevented plans from being made and actions from being taken. It often seems like there is a demand for more information before such information can be provided with complete certainty. While it may not be possible to make firm scientific pronouncements in certain areas of concern, carefully considered and timely advice could be given as suggested by the weight of evidence available at a given period. Suggested earlier (Florencio, 1983) and again at this time is the formation of a Consensus Development Body (composed of individuals steeped in the tradition of sound research and analysis, in step with recent developments and future thrusts, and cognizant of local conditions) for the purpose of providing well-thought out and contextually appropriate interim guidelines.

o In the last decade or so, the need for nutrition planners was fostered, and it saw the creation of training programs in nutrition planning in many parts of the world, including the Philippines. The development of an incisive mind and analytical ability, in addition to a holistic view of nutrition, should be a key concern of such programs.

The general acceptance of nutrition as being multifaceted has led to curricular programs for nutrition professionals which include courses in areas such as agriculture, economics, political science and sociology. Such broadening of orientation is important. At the same time we must not lose track of the fact that the business of nutritionists is nutrition. Nutritionists are not ersatz agriculturists, economists, sociologists or whatever. But they are expected to be highly competent in the science of nutrition, (and to be proficient in the basic tools and concerns of nutrition), among which are nutrient composition of food, function and interaction of nutrients, evaluation of nutritional status and relationships between nutrition and health/disease.

EXPLANATORY NOTES

1 This paper will consider only the use of anthropometry; another (i.e. Barba and Pandes, 1985) will deal with dietary assessment.

2 Also called ideal reference, reference standard or desirable by some nutrition workers.

3 What we have been using in this country as reference standard of Filipino children are heights and weights for age at the 90th percentile levels based on data collected during the FNRI regional nutrition surveys in the 60's. "Distribution curves for heights and weights contain data from many undernourished children and the central points of these curves would be far from ideal standards. Any recommendation based upon data collected from our survey will therefore have to be from among the highest percentile levels" (Bulatao-Jayne, et al, July-Sept. 1971). The study made clear that the recommended standard is to be used "pending the collection of data from known healthy optimally nourished Filipino children" and "the classification being presented is for the purpose of grouping children and should not be used as the sole basis for diagnosing malnutrition in an individual child" (Bulatao-Jayne, et al., Oct.-Dec. 1971).

4 In the Gomez classification, the cut-off points for the different grades are: weight/age above 90 percent of standard (normal); between 90 percent and 75 percent of standard (mild or first degree); between 75 percent and 60 percent (moderate or second degree); and below 60 percent (severe or third degree). According to Gomez the main value of this classification was a prognostic one since there are marked differences in mortality during the first 48 hrs. of admission to the Hospital Infantil de Mexico between children with second and third degree malnutrition. For one reason or another the grading system became widely used throughout the world, not only to classify children admitted in hospitals but also to classify malnutrition in communities and even as basis for determining nutrition policies and programs of developing countries.

5 According to Martorell (15) indicators of wasting provide the simplest way of identifying individuals requiring immediate medical and nutritional attention but "monitoring changes in populations is best done, not in terms of indicators of wasting, but of stunting. Most children in chronically malnourished populations are able to maintain normal weight/length relationships; hence, improvements over time in measurements of stunting can take place without changes in measures of wasting." On mass/length relationships, Waterlow says that since deficits in weight-for-height may develop and be restored quite quickly, it is unrealistic to use this index for long-term prognosis but is the index of choice for assessing impact over a short period (Waterlow, 1984).

Let us take the case of the proposed parliamentary bill "to prohibit the manufacture and distribution of junk food, those processed foods which do not meet certain nutritional standards, and related purposes." While the motivation for the bill is noteworthy ("in furtherance of existing efforts to improve nutrition and eradicate malnutrition"), there is need to examine seriously its scientific and contextual basis.

1. What is the nature of the nutritional problem which the proposal seeks to correct?
2. How many are affected by the so-called problem?
3. How sound is the criterion used to identify junk foods?

The proposal states that "all processed snack foods manufactured and/or distributed in the Philippines shall contain the following essential vitamins and minerals at least in the amounts specified per 100 kilocalories: 23 micrograms of Vitamin A as retinol equivalents, 0.05 mg of thiamine, 0.05 mg of riboflavin, 0.7 mg of niacin and 0.5 mg of iron."

With this criterion many foods, including rice and chicken, will be considered junk. The proportion of nutrients to calories as specified reflect those found in the RDA or Recommended Dietary Allowances for Filipinos. However, the RDAs are meant to be met in one or more ways using a variety of foods. No one food can be expected to be superbly constituted, nutrient wise.

4. If the intention is to make available in the market only "nutritious" foods, why limit the proposal to processed snack foods (all dry extruded or expanded, cereal-based finger foods, usually eaten between meals, processed into bite-size pieces)? What about candies and gums and carbonated beverages?

Moreover, to exclude one or more foods on purely nutritional grounds is to be blind to the psycho-socio-cultural aspects of eating.

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